

# SEQUENCE LISTING

<110> Emory University  
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Shur, Barry A.

<120> METHODS AND COMPOSITIONS FOR MODULATING GAMETE ADHESION

<130> 50508-2390

<150> US 60/512,174

<151> 2003-10-17

<160> 9

<170> PatentIn version 3.3

<210> 1

<211> 1281

<212> DNA

<213> Mus musculus

<400> 1

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840      ttcgagctcc tgggctgtga gttgcacgga tgttctgagc ccctgggcct gaagaataac  
 900      acaattcctg acagccagat gtcagcctcc agcagctaca agacatggaa cctgcgtgct  
 960      tttggctggg acccccactt gggaaggctg gataatcagg gcaagatcaa tgcctggacg  
 1020      gctcagagca acagtgccaa ggaatggctg caggttgacc tgggcactca gaggcaagtg  
 1080      acaggaatca tcaccaggg ggcccgtgac tttggccaca tccagtatgt ggcgtcctac  
 1140      aaggtagccc acagtgatga tgggtgtgcag tggactgtat atgaggagca aggaagcagc  
 1200      aaggtcttcc agggcaactt ggacaacaac tcccacaaga agaacatctt cgagaaaccc  
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Cys	Leu	Asn	Gly	Gly	Thr	Cys	Leu	Thr	Gly	Gln	Asp	Asn	Asp	Ile	Tyr
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Cys	Leu	Cys	Pro	Glu	Gly	Phe	Thr	Gly	Leu	Val	Cys	Asn	Glu	Thr	Glu
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Arg	Gly	Pro	Cys	Ser	Pro	Asn	Pro	Cys	Tyr	Asn	Asp	Ala	Lys	Cys	Leu
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Val	Thr	Leu	Asp	Thr	Gln	Arg	Gly	Asp	Ile	Phe	Thr	Glu	Tyr	Ile	Cys
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Gln	Cys	Pro	Val	Gly	Tyr	Ser	Gly	Ile	His	Cys	Glu	Thr	Gly	Cys	Ser

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Thr	Gln	Leu	Gly	Met	Glu	Gly	Gly	Ala	Ile	Ala	Asp	Ser	Gln	Ile	Ser
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Ala	Ser	Ser	Val	Tyr	Met	Gly	Phe	Met	Gly	Leu	Gln	Arg	Trp	Gly	Pro
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Glu	Leu	Ala	Arg	Leu	Tyr	Arg	Thr	Gly	Ile	Val	Asn	Ala	Trp	Thr	Ala
145					150					155					160
Ser	Asn	Tyr	Asp	Ser	Lys	Pro	Trp	Ile	Gln	Val	Asn	Leu	Leu	Arg	Lys
				165					170					175	
Met	Arg	Val	Ser	Gly	Val	Met	Thr	Gln	Gly	Ala	Ser	Arg	Ala	Gly	Arg
			180					185					190		
Ala	Glu	Tyr	Leu	Lys	Thr	Phe	Lys	Val	Ala	Tyr	Ser	Leu	Asp	Gly	Arg
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Lys	Phe	Glu	Phe	Ile	Gln	Asp	Glu	Ser	Gly	Gly	Asp	Lys	Glu	Phe	Leu
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Gly	Asn	Leu	Asp	Asn	Asn	Ser	Leu	Lys	Val	Asn	Met	Phe	Asn	Pro	Thr
225						230					235				240
Leu	Glu	Ala	Gln	Tyr	Ile	Arg	Leu	Tyr	Pro	Val	Ser	Cys	His	Arg	Gly
			245						250					255	
Cys	Thr	Leu	Arg	Phe	Glu	Leu	Leu	Gly	Cys	Glu	Leu	His	Gly	Cys	Ser
			260					265					270		
Glu	Pro	Leu	Gly	Leu	Lys	Asn	Asn	Thr	Ile	Pro	Asp	Ser	Gln	Met	Ser
		275					280					285			
Ala	Ser	Ser	Ser	Tyr	Lys	Thr	Trp	Asn	Leu	Arg	Ala	Phe	Gly	Trp	Tyr
	290					295					300				
Pro	His	Leu	Gly	Arg	Leu	Asp	Asn	Gln	Gly	Lys	Ile	Asn	Ala	Trp	Thr
305						310					315				320
Ala	Gln	Ser	Asn	Ser	Ala	Lys	Glu	Trp	Leu	Gln	Val	Asp	Leu	Gly	Thr
			325						330					335	
Gln	Arg	Gln	Val	Thr	Gly	Ile	Ile	Thr	Gln	Gly	Ala	Arg	Asp	Phe	Gly
		340					345						350		

His Ile Gln Tyr Val Ala Ser Tyr Lys Val Ala His Ser Asp Asp Gly  
355 360 365

Val Gln Trp Thr Val Tyr Glu Glu Gln Gly Ser Ser Lys Val Phe Gln  
370 375 380

Gly Asn Leu Asp Asn Asn Ser His Lys Lys Asn Ile Phe Glu Lys Pro  
385 390 395 400

Phe Met Ala Arg Tyr Val Arg Val Leu Pro Val Ser Trp His Asn Arg  
405 410 415

Ile Thr Leu Arg Leu Glu Leu Leu Gly Cys  
420 425

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<213> mus musculus

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Ala Ser Gly Asp Phe Cys Asp Ser Ser Leu Cys Leu Asn Gly Gly Thr  
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Cys Leu Thr Gly Gln Asp Asn Asp Ile Tyr Cys Leu Cys Pro Glu Gly  
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Phe Thr Gly Leu Val Cys Asn Glu Thr Glu Arg Gly Pro Cys Ser Pro  
35 40 45

Asn Pro Cys Tyr Asn Asp Ala Lys Cys Leu Val Thr Leu Asp Thr Gln  
50 55 60

Arg Gly Asp Ile Phe Thr Glu Tyr Ile Cys Gln Cys Pro Val Gly Tyr  
65 70 75 80

Ser Gly Ile His Cys Glu Thr Gly Cys Ser Thr Gln Leu Gly Met Glu  
85 90 95

Gly Gly Ala Ile Ala Asp Ser Gln Ile Ser Ala Ser Ser Val Tyr Met  
100 105 110

Gly Phe Met Gly Leu Gln Arg Trp Gly Pro Glu Leu Ala Arg Leu Tyr  
115 120 125

Arg Thr Gly Ile Val Asn Ala Trp Thr Ala Ser Asn Tyr Asp Ser Lys  
 130 135 140

Pro Trp Ile Gln Val Asn Leu Leu Arg Lys Met Arg Val Ser Gly Val  
 145 150 155 160

Met Thr Gln Gly Ala Ser Arg Ala Gly Arg Ala Glu Tyr Leu Lys Thr  
 165 170 175

Phe Lys Val Ala Tyr Ser Leu Asp Gly Arg Lys Phe Glu Phe Ile Gln  
 180 185 190

Asp Glu Ser Gly Gly Asp Lys Glu Phe Leu Gly Asn Leu Asp Asn Asn  
 195 200 205

Ser Leu Lys Val Asn Met Phe Asn Pro Thr Leu Glu Ala Gln Tyr Ile  
 210 215 220

Arg Leu Tyr Pro Val Ser Cys His Arg Gly Cys Thr Leu Arg Phe Glu  
 225 230 235 240

Leu Leu Gly Cys Glu Leu His Gly Cys Ser Glu Pro Leu Gly Leu Lys  
 245 250 255

Asn Asn Thr Ile Pro Asp Ser Gln Met Ser Ala Ser Ser Ser Tyr Lys  
 260 265 270

Thr Trp Asn Leu Arg Ala Phe Gly Trp Tyr Pro His Leu Gly Arg Leu  
 275 280 285

Asp Asn Gln Gly Lys Ile Asn Ala Trp Thr Ala Gln Ser Asn Ser Ala  
 290 295 300

Lys Glu Trp Leu Gln Val Asp Leu Gly Thr Gln Arg Gln Val Thr Gly  
 305 310 315 320

Ile Ile Thr Gln Gly Ala Arg Asp Phe Gly His Ile Gln Tyr Val Ala  
 325 330 335

Ser Tyr Lys Val Ala His Ser Asp Asp Gly Val Gln Trp Thr Val Tyr  
 340 345 350

Glu Glu Gln Gly Ser Ser Lys Val Phe Gln Gly Asn Leu Asp Asn Asn  
 355 360 365

Ser His Lys Lys Asn Ile Phe Glu Lys Pro Phe Met Ala Arg Tyr Val

370

375

380

Arg Val Leu Pro Val Ser Trp His Asn Arg Ile Thr Leu Arg Leu Glu  
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Leu Leu Gly Cys

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<212> PRT

<213> artificial

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<223> EEC - recombinant protein

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Ala Ser Gly Asp Phe Cys Asp Ser Ser Leu Cys Leu Asn Gly Gly Thr  
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Cys Leu Thr Gly Gln Asp Asn Asp Ile Tyr Cys Leu Cys Pro Glu Gly  
 20 25 30

Phe Thr Gly Leu Val Cys Asn Glu Thr Glu Arg Gly Pro Cys Ser Pro  
 35 40 45

Asn Pro Cys Tyr Asn Asp Ala Lys Cys Leu Val Thr Leu Asp Thr Gln  
 50 55 60

Arg Gly Asp Ile Phe Thr Glu Tyr Ile Cys Gln Cys Pro Val Gly Tyr  
 65 70 75 80

Ser Gly Ile His Cys Glu Thr Gly Cys Ser Thr Gln Leu Gly Met Glu  
 85 90 95

Gly Gly Ala Ile Ala Asp Ser Gln Ile Ser Ala Ser Ser Val Tyr Met  
 100 105 110

Gly Phe Met Gly Leu Gln Arg Trp Gly Pro Glu Leu Ala Arg Leu Tyr  
 115 120 125

Arg Thr Gly Ile Val Asn Ala Trp Thr Ala Ser Asn Tyr Asp Ser Lys  
 130 135 140

Pro Trp Ile Gln Val Asn Leu Leu Arg Lys Met Arg Val Ser Gly Val  
 145 150 155 160

Met Thr Gln Gly Ala Ser Arg Ala Gly Arg Ala Glu Tyr Leu Lys Thr  
165 170 175

Phe Lys Val Ala Tyr Ser Leu Asp Gly Arg Lys Phe Glu Phe Ile Gln  
180 185 190

Asp Glu Ser Gly Gly Asp Lys Glu Phe Leu Gly Asn Leu Asp Asn Asn  
195 200 205

Ser Leu Lys Val Asn Met Phe Asn Pro Thr Leu Glu Ala Gln Tyr Ile  
210 215 220

Arg Leu Tyr Pro Val Ser Cys His Arg Gly Cys Thr Leu Arg Phe Glu  
225 230 235 240

Leu Leu Gly Cys

<210> 5  
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<212> PRT  
<213> artificial

<220>  
<223> ECC - recombinant protein

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Glu Thr Glu Arg Gly Pro Cys Ser Pro Asn Pro Cys Tyr Asn Asp Ala  
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Lys Cys Leu Val Thr Leu Asp Thr Gln Arg Gly Asp Ile Phe Thr Glu  
20 25 30

Tyr Ile Cys Gln Cys Pro Val Gly Tyr Ser Gly Ile His Cys Glu Thr  
35 40 45

Gly Cys Ser Thr Gln Leu Gly Met Glu Gly Gly Ala Ile Ala Asp Ser  
50 55 60

Gln Ile Ser Ala Ser Ser Val Tyr Met Gly Phe Met Gly Leu Gln Arg  
65 70 75 80

Trp Gly Pro Glu Leu Ala Arg Leu Tyr Arg Thr Gly Ile Val Asn Ala  
85 90 95

Trp Thr Ala Ser Asn Tyr Asp Ser Lys Pro Trp Ile Gln Val Asn Leu  
100 105 110

Leu Arg Lys Met Arg Val Ser Gly Val Met Thr Gln Gly Ala Ser Arg  
 115 120 125

Ala Gly Arg Ala Glu Tyr Leu Lys Thr Phe Lys Val Ala Tyr Ser Leu  
 130 135 140

Asp Gly Arg Lys Phe Glu Phe Ile Gln Asp Glu Ser Gly Gly Asp Lys  
 145 150 155 160

Glu Phe Leu Gly Asn Leu Asp Asn Asn Ser Leu Lys Val Asn Met Phe  
 165 170 175

Asn Pro Thr Leu Glu Ala Gln Tyr Ile Arg Leu Tyr Pro Val Ser Cys  
 180 185 190

His Arg Gly Cys Thr Leu Arg Phe Glu Leu Leu Gly Cys Glu Leu His  
 195 200 205

Gly Cys Ser Glu Pro Leu Gly Leu Lys Asn Asn Thr Ile Pro Asp Ser  
 210 215 220

Gln Met Ser Ala Ser Ser Ser Tyr Lys Thr Trp Asn Leu Arg Ala Phe  
 225 230 235 240

Gly Trp Tyr Pro His Leu Gly Arg Leu Asp Asn Gln Gly Lys Ile Asn  
 245 250 255

Ala Trp Thr Ala Gln Ser Asn Ser Ala Lys Glu Trp Leu Gln Val Asp  
 260 265 270

Leu Gly Thr Gln Arg Gln Val Thr Gly Ile Ile Thr Gln Gly Ala Arg  
 275 280 285

Asp Phe Gly His Ile Gln Tyr Val Ala Ser Tyr Lys Val Ala His Ser  
 290 295 300

Asp Asp Gly Val Gln Trp Thr Val Tyr Glu Glu Gln Gly Ser Ser Lys  
 305 310 315 320

Val Phe Gln Gly Asn Leu Asp Asn Asn Ser His Lys Lys Asn Ile Phe  
 325 330 335

Glu Lys Pro Phe Met Ala Arg Tyr Val Arg Val Leu Pro Val Ser Trp  
 340 345 350



His Asn Arg Ile Thr Leu Arg Leu Glu Leu Leu Gly Cys  
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<210> 6  
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<212> PRT  
<213> artificial

<220>  
<223> EC - recombinant protein

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Lys Cys Leu Val Thr Leu Asp Thr Gln Arg Gly Asp Ile Phe Thr Glu  
20 25 30

Tyr Ile Cys Gln Cys Pro Val Gly Tyr Ser Gly Ile His Cys Glu Thr  
35 40 45

Gly Cys Ser Thr Gln Leu Gly Met Glu Gly Gly Ala Ile Ala Asp Ser  
50 55 60

Gln Ile Ser Ala Ser Ser Val Tyr Met Gly Phe Met Gly Leu Gln Arg  
65 70 75 80

Trp Gly Pro Glu Leu Ala Arg Leu Tyr Arg Thr Gly Ile Val Asn Ala  
85 90 95

Trp Thr Ala Ser Asn Tyr Asp Ser Lys Pro Trp Ile Gln Val Asn Leu  
100 105 110

Leu Arg Lys Met Arg Val Ser Gly Val Met Thr Gln Gly Ala Ser Arg  
115 120 125

Ala Gly Arg Ala Glu Tyr Leu Lys Thr Phe Lys Val Ala Tyr Ser Leu  
130 135 140

Asp Gly Arg Lys Phe Glu Phe Ile Gln Asp Glu Ser Gly Gly Asp Lys  
145 150 155 160

Glu Phe Leu Gly Asn Leu Asp Asn Asn Ser Leu Lys Val Asn Met Phe  
165 170 175

Asn Pro Thr Leu Glu Ala Gln Tyr Ile Arg Leu Tyr Pro Val Ser Cys  
180 185 190

His Arg Gly Cys Thr Leu Arg Phe Glu Leu Leu Gly Cys  
 195 200 205

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 <223> CC - recombinant protein

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 1 5 10 15

Gln Ile Ser Ala Ser Ser Val Tyr Met Gly Phe Met Gly Leu Gln Arg  
 20 25 30

Trp Gly Pro Glu Leu Ala Arg Leu Tyr Arg Thr Gly Ile Val Asn Ala  
 35 40 45

Trp Thr Ala Ser Asn Tyr Asp Ser Lys Pro Trp Ile Gln Val Asn Leu  
 50 55 60

Leu Arg Lys Met Arg Val Ser Gly Val Met Thr Gln Gly Ala Ser Arg  
 65 70 75 80

Ala Gly Arg Ala Glu Tyr Leu Lys Thr Phe Lys Val Ala Tyr Ser Leu  
 85 90 95

Asp Gly Arg Lys Phe Glu Phe Ile Gln Asp Glu Ser Gly Gly Asp Lys  
 100 105 110

Glu Phe Leu Gly Asn Leu Asp Asn Asn Ser Leu Lys Val Asn Met Phe  
 115 120 125

Asn Pro Thr Leu Glu Ala Gln Tyr Ile Arg Leu Tyr Pro Val Ser Cys  
 130 135 140

His Arg Gly Cys Thr Leu Arg Phe Glu Leu Leu Gly Cys Glu Leu His  
 145 150 155 160

Gly Cys Ser Glu Pro Leu Gly Leu Lys Asn Asn Thr Ile Pro Asp Ser  
 165 170 175

Gln Met Ser Ala Ser Ser Ser Tyr Lys Thr Trp Asn Leu Arg Ala Phe  
 180 185 190

Gly Trp Tyr Pro His Leu Gly Arg Leu Asp Asn Gln Gly Lys Ile Asn  
195 200 205

Ala Trp Thr Ala Gln Ser Asn Ser Ala Lys Glu Trp Leu Gln Val Asp  
210 215 220

Leu Gly Thr Gln Arg Gln Val Thr Gly Ile Ile Thr Gln Gly Ala Arg  
225 230 235 240

Asp Phe Gly His Ile Gln Tyr Val Ala Ser Tyr Lys Val Ala His Ser  
245 250 255

Asp Asp Gly Val Gln Trp Thr Val Tyr Glu Glu Gln Gly Ser Ser Lys  
260 265 270

Val Phe Gln Gly Asn Leu Asp Asn Asn Ser His Lys Lys Asn Ile Phe  
275 280 285

Glu Lys Pro Phe Met Ala Arg Tyr Val Arg Val Leu Pro Val Ser Trp  
290 295 300

His Asn Arg Ile Thr Leu Arg Leu Glu Leu Leu Gly Cys  
305 310 315

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25

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